

Knowledge and Attitude of University Students in Health Sciences on the Prevention of Cervical Cancer

Y Y Tan, BSc*, R Hesham, PhD*, H M S Qodriyah, PhD**

*Faculty of Pharmacy & **Department of Pharmacology, Medical Faculty, Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia

SUMMARY

Cervical cancer is the second most common female cancer after breast cancer both in Malaysia and worldwide although it can be mostly prevented. The objective of this study was to assess the knowledge level and attitude of University Kebangsaan Malaysia female students in the Faculties of Pharmacy and Allied Health Sciences on the prevention of cervical cancer. A total of 675 respondents were recruited for this cross-sectional study involving pre-tested questionnaires. The data was analyzed using Statistical Package for Social Sciences (SPSS) version 15.0. There was significant association between grade and mean score of knowledge with different faculties and year of education ($p < 0.05$). However, significant association was shown only between grade of knowledge with different programs in the Faculty of Allied Health Sciences. For mean score of knowledge, significant difference only existed among different races ($p < 0.05$). Mass media was the most common source of information. In conclusion, the knowledge level of respondents on cervical cancer and its prevention was not satisfactory despite their positive attitude on prevention. Thus, more awareness programs should be conducted in University campuses to provide students with knowledge on prevention of cervical cancer.

KEY WORDS:

Cervical cancer, Knowledge, Attitude, Vaccination

INTRODUCTION

Cervical cancer is the most common malignancy among women in developing countries¹. In Malaysia, it is ranked second after breast cancer² contributing 12.9% of all female cancers³. Clinical studies had confirmed that human papillomavirus (HPV) is the cause of cervical cancer⁴. HPV-16 and HPV-18 are the most prevalent high-risk viruses and contribute to about 70% of all cervical cancers⁵. Two vaccines, had been developed in recent years to prevent cervical cancer caused by HPV-16 and HPV-18. Both vaccines gave 100% efficacy in women who were not infected by HPV-16 and 18 but they are only prophylactic and do not protect against all oncogenic HPV⁶.

Pap smear test is the main screening method used for the secondary prevention of cervical cancer. It can detect precancerous cells easily⁷. Pap smear screening has been very effective in reducing the incidence of cervical cancer in developed countries but not in developing countries such as Malaysia.

It is important to assess the knowledge and attitude of Malaysian University students on prevention of cervical cancer as no studies have been reported in Malaysia targeting specifically this group. Such studies can provide useful information for the authorities and relevant organizations to develop effective education and awareness programs for prevention of cervical cancer among University students.

This study was conducted to assess the knowledge level and attitude of Malaysian University female students from the Faculties of Pharmacy (FF) and Allied Health Sciences (FSKB) of Universiti Kebangsaan Malaysia (UKM) on the prevention of cervical cancer.

MATERIALS AND METHODS

Study design

This cross-sectional study was conducted from July 2008 to September 2008 among female students from the FF and FSKB of UKM. Data was collected from the respondents using pre-tested, validated and self administered questionnaires that were written in English and Malay. Questionnaires were distributed to all available first, second and third year female students from the FF and FSKB with a total number of 711 students. The questionnaire was divided into A: Demographic data, B: General knowledge about cervical cancer, C: Knowledge about prevention, D: Attitudes on prevention, E: Source of information for cervical cancer and factors influencing the acceptance of vaccination and Pap smear tests.

Statistical analysis

Data was analyzed using Statistical Package for Social Sciences (SPSS) version 15.0. Some data was presented in descriptive statistics to provide clearer picture for particular information. Chi-squared test was used to determine the significant association between the tested parameter. Independent T-test, ANOVA and non parametric test (Kruskal Wallis, Mann Whitney) were conducted to determine if there was a significant difference between the parameter studied. All tests were analyzed at the confidence interval, $\alpha = 0.05$. The significant level (p value) was 0.05.

For parts B and C, each correct answer was given 1 mark and no mark was given to the wrong answer. For the knowledge level on cervical cancer, the total marks were 13. The classification is as follows⁸:

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Corresponding Author: Hesham Rashwan, Faculty of Pharmacy, Universiti Kebangsaan Malaysia, Jalan Raja Muda Abdul Aziz, 50300 Kuala Lumpur, Malaysia Email: heshrash@medic.ukm.my

Level of knowledge	Score of correct answers
High	10-13
Intermediate	7-9
Low	0-6

Meanwhile, for the knowledge level on prevention, the classification is as follows⁸:

Level of knowledge	Score of correct answers
High	4-5
Intermediate	2-3
Low	0-1

Attitude of respondents was divided into positive, neutral and negative. Score of 19 to 25 were categorized as positive whereas 13 to 18 were categorized as neutral. Respondents with the score of 0 to 12 were categorized as negative⁹.

RESULTS

Demographic data

A total of 675 completed questionnaires were returned by the respondents in this study with a response rate of 95%. There were 16.9% respondents from FF (n=114) whereas 83.1% (n=561) respondents were from FSKB. Most of the respondents were Malay (48.9%), followed by Chinese (45.5%), Indian (3.3%) and others (2.4%). Table I shows details of the demographic data.

Knowledge on Cervical Cancer and Its Prevention

There was highly significant association between grade of knowledge and year of education ($p < 0.001$). ANOVA tests also showed highly significant correlation between mean score and year of education ($p < 0.001$). There was significant association between grade of knowledge and the different

programs in FSKB ($p = 0.003$). There was also significant association of mean score with races ($p = 0.004$) and faculties ($p = 0.048$). Details are shown in Table II.

For knowledge on prevention, year of education showed significant correlation with grade of knowledge ($p = 0.001$) and with median score ($p = 0.005$). Significant correlation of grade of knowledge and median score also existed for race ($p = 0.010$ and $p = 0.013$ respectively). The details are shown in Table III.

Awareness and Source of Information

A total of 577 (85%) respondents were aware of cervical cancer, while the remaining 98 (15%) were not. Mass media was the most popular source of information for the respondents (59.1%), followed by education (48.6%) and posters in University campus (39.4%). Figure I shows source of information of respondents according to faculties.

Attitude on Prevention of Cervical Cancer

There was no significant correlation between attitude and faculties ($p = 0.315$) and year of education ($p = 0.749$). Table IV shows the grade and mean score of attitude on prevention according to faculty and programs in FSKB, year of education and race.

DISCUSSION

This study was restricted to female students as they are susceptible to cervical cancer and the available vaccines are only indicated for prevention of cervical cancer and not other cancers that can affect males. Final year students were excluded as they were spending most of their time doing clinical attachments out of the campus. More respondents from FSKB than FF were enrolled in this study because FSKB has several programs and larger number of students than FF.

Table I: Demographic data of respondents

	Demographic data	Number (%)
Faculty	Faculty of Pharmacy	114 (16.9)
	Faculty of Allied Health Sciences (FSKB)	561 (83.1)
Programs in FSKB	Biomedical Science (BIO)	120 (21.4)
	Physiotherapy (PHYSIO)	40 (7.1)
	Optometry (OPTO)	59 (10.5)
	Dietetic (DIET)	66 (11.8)
	Nutrition (NUTRI)	73 (13.0)
	Diagnostic Imaging and Radiotherapy (PDR)	39 (7.0)
	Speech (SP)	30 (5.3)
	Audiology (AUDIO)	25 (4.5)
	Environmental Health (EVH)	48 (8.5)
	Occupational Therapy (OT)	37 (6.6)
	Forensic Science (F)	24 (4.3)
Year of education	1	FF FSKB
		45 (6.7) 179 (26.5)
	2	FF FSKB
		35 (5.2) 189 (28.0)
	3	FF FSKB
		34 (5.0) 193 (28.6)
Race	Malay	330 (48.9)
	Chinese	307 (45.5)
	India	22 (3.3)
	Others	16 (2.4)

Table II: Grade and mean score of knowledge according to faculty, programs in FSKB, year of education and race

		N	Score (Mean±SD)	Grade		
				Low [n (%)]	Intermediate [n (%)]	High [n (%)]
Faculty**	FF*	114	5.09±2.123	72 (63.2)	41 (36.0)	1 (0.9)
	FSKB@	561	5.55±2.930	295 (52.6)	210 (37.4)	56 (10.0)
Programs***	AUDIO	25	4.80±2.483	16 (64.0)	8 (32.0)	1 (4.0)
	BIO	120	6.23±2.672	48 (40.0)	62 (51.7)	10 (8.3)
	DIET	66	5.48±3.159	36 (54.5)	20 (30.3)	10 (15.2)
	EVH	48	5.00±3.108	29 (60.4)	17 (35.4)	2 (4.2)
	PHYSIO	40	5.80±3.040	20 (50.0)	15 (37.5)	5 (12.5)
	OPTO	59	6.05±3.627	27 (45.8)	17 (28.8)	15 (25.4)
	OT	37	5.46±2.704	18 (48.6)	17 (45.9)	2 (5.4)
	PDR	39	5.00±2.847	23 (59.0)	14 (35.9)	2 (5.1)
	NUTRI	73	5.19±2.772	44 (60.3)	24 (32.9)	5 (6.8)
	F	24	5.75±2.770	12 (50.0)	10 (41.7)	2 (8.3)
	SP	30	4.73±2.196	21 (70.0)	8 (26.7)	1 (3.3)
Year of education****	1	224	4.41±2.642	158 (70.5)	57 (25.4)	9 (4.0)
	2	224	5.29±2.671	129 (57.6)	81 (36.2)	14 (6.3)
	3	227	6.70±2.652	80 (35.2)	113 (49.8)	34 (15.0)
Race*****	Malay	330	5.10±2.749	207 (59.5)	118 (33.9)	23 (6.6)
	Chinese	307	5.90±2.846	152 (49.5)	120 (39.1)	35 (11.4)
	Indian	22	5.55±2.738	12 (50.0)	11 (45.8)	1 (4.2)
	Others	16	5.06±2.720	10 (62.5)	5 (31.3)	1 (6.3)
Total respondents	-	-	-	361 (54.4)	251 (37.2)	57 (8.4)

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** (p= 0.004 for chi-squared test; p=0.048 for independent T-test)

*** (p= 0.003 for chi-squared test; p= 0.076 for ANOVA)

**** (p<0.001 for chi-squared test; p<0.001 for ANOVA)

***** (p=0.129 for chi-squared test; p=0.004 for ANOVA)

Table III: Grade and median score of knowledge on prevention according to faculty, programs in FSKB, year of education and race

		N	Score (Median)	Grade		
				Low [n (%)]	Intermediate [n (%)]	High [n (%)]
Faculty**	FF*	114	2.00	52 (45.6)	58 (50.9)	4 (3.5)
	FSKB@	561	2.00	241 (43.0)	266 (47.4)	54 (9.6)
Programmes***	AUDIO	25	2.00	7 (28.0)	14 (56.0)	4 (16.0)
	BIO	120	2.00	43 (35.8)	67 (55.8)	10 (8.3)
	DIET	66	2.00	29 (43.9)	29 (43.9)	8 (12.1)
	EVH	48	2.00	22 (45.8)	23 (47.9)	3 (6.3)
	PHYSIO	40	2.00	18 (45.0)	21 (52.5)	1 (2.5)
	OPTO	59	2.00	29 (49.2)	18 (30.5)	12 (20.3)
	OT	37	2.00	15 (40.5)	18 (48.6)	4 (10.8)
	PDR	39	2.00	16 (41.0)	17 (43.6)	6 (15.4)
	NUTRI	73	2.00	36 (49.3)	34 (46.6)	3 (4.1)
	F	24	1.00	14 (58.3)	9 (37.5)	1 (4.2)
	SP	30	2.00	12 (40.0)	16 (53.3)	2 (6.7)
Year of education****	1	224	2.00	112 (37.0)	109 (32.7)	10 (4.3)
	2	224	2.00	112 (47.3)	108 (45.6)	17 (7.2)
	3	227	2.00	79 (34.8)	116 (51.1)	32 (14.1)
Race*****	Malay	330	1.50	165 (50.0)	141 (42.7)	22 (7.3)
	Chinese	307	2.00	109 (35.5)	166 (54.1)	32 (10.4)
	Indian	22	2.00	9 (40.9)	12 (54.5)	1 (4.5)
	Others	16	1.00	10 (62.5)	5 (31.3)	1 (6.3)
Total respondents	-	-	-	293 (8.6)	324 (48.0)	58 (43.4)

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** (p= 0.105 for chi-squared test; p= 0.331 for Mann Whitney)

*** (p= 0.105 for chi-squared test; p= 0.543 for Kruskal-Wallis)

**** (p= 0.001 for chi-squared test; p= 0.005 for Kruskal-Wallis)

***** (p= 0.010 for chi-squared test; p= 0.013 Kruskal-Wallis)

Table IV: Grade and mean score of attitude according to faculty, programs in FSKB, year of education and race

		N	Score (Mean±SD)	Grade		
				Low [n (%)]	Intermediate [n (%)]	High [n (%)]
Faculty**	FF*	114	19.29±2.491	105 (92.1)	4 (3.5)	5 (4.4)
	FSKB@	561	19.32±2.752	506 (90.2)	40 (7.1)	15 (2.7)
Programs***	AUDIO	25	19.60±2.769	-	-	-
	BIO	120	19.72±2.823	-	-	-
	DIET	66	18.74±2.708	-	-	-
	EVH	48	19.19±2.994	-	-	-
	PHYSIO	40	20.15±2.517	-	-	-
	OPTO	59	19.08±2.818	-	-	-
	OT	37	19.03±2.619	-	-	-
	PDR	39	17.90±2.918	-	-	-
	NUTRI	73	19.68±2.284	-	-	-
	F	24	18.83±3.319	-	-	-
	SP	30	20.07±3.095	-	-	-
Year of education****	1	224	19.37±2.755	200 (89.3)	17 (7.6)	7 (3.1)
	2	224	19.38±2.813	204 (91.1)	15 (6.7)	5 (2.2)
	3	227	19.20±2.698	207 (91.2)	12 (5.3)	8 (3.5)
Race*****	Malay	330	19.15±2.848	-	-	-
	Chinese	307	19.54±2.679	-	-	-
	Indian	22	18.59±2.282	-	-	-
	Others	16	19.44±2.529	-	-	-
Total respondents	-	-	-	611 (90.5)	44 (6.5)	20 (3.0)

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** (p= 0.315 for chi-squared test; p= 0.912 independent T-test)

*** (p= 0.007 for ANOVA)

**** (p= 0.934 for chi-squared test; p= 0.749 for ANOVA)

***** (p= 0.166 for ANOVA)

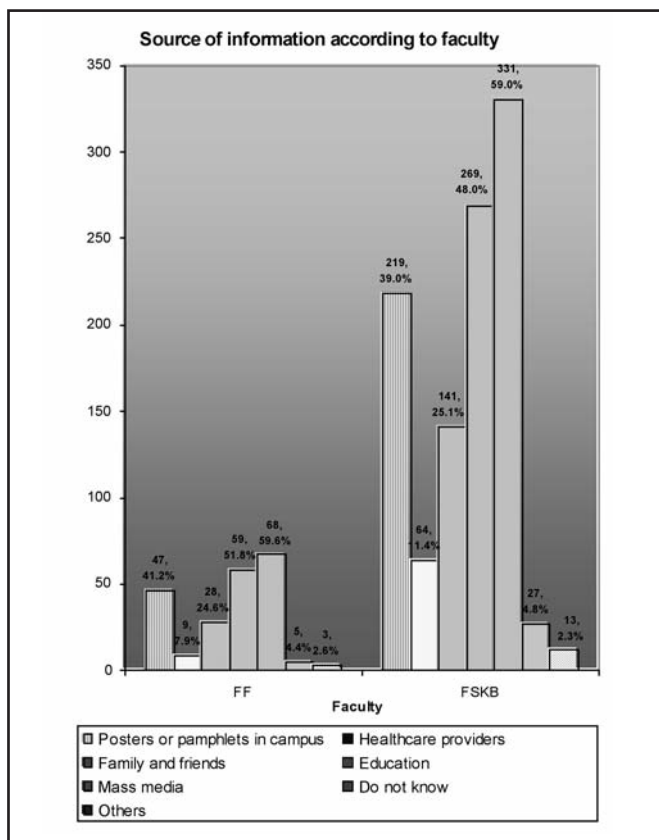


Fig. 1: Source of information according to faculty.

Knowledge on Cervical Cancer and Its Prevention

Majority of respondents had low grade of knowledge on cervical cancer, as in the study among adolescents in Brazil¹⁰. However for knowledge on prevention, the majority of respondents obtained an intermediate grade. This indicated that the respondents were more concerned about preventing cervical cancer than knowing more details about the disease.

According to our study, there was significant association between grade of knowledge and programs in FSKB. It is reasonable as subjects taken by different programs were not the same. Year of education showed highly significant association with grade of knowledge on cervical cancer and its prevention in this study. Similarly, studies conducted by Smith *et al.* (1999)¹¹ and Stark *et al.* (2008)¹² showed the importance of education. According to a study conducted by Baer *et al.* (2000)¹³, majority of first year students knew only a little regarding HPV infection and how it spreads. The results showed that respondents with higher education level had more exposure and knowledge on different patients and diseases. It is because first year students learnt only basic theories. Through exposure and experience gained from lessons and practicals, second and third year students would definitely have more in-depth knowledge in their particular field. However, respondents, irrespective of their year of education, did not take their initiative to obtain more health information.

Significant association and difference of median score on prevention existed for different races. There was also significant association between mean score of knowledge and race. It is due to the different traditions, beliefs and lifestyles of different races. Chinese had the highest mean score because they had the highest incidence rate of cervical cancer according to National Cancer Registry (NCR) in 2003³. Hence, Chinese women would be more concerned than other races about cervical cancer and would seek more information on its prevention.

Attitude on Prevention of Cervical Cancer

No significant association for mean score of attitude was shown for faculty, year of education and race. It is probably because almost all respondents had positive attitude on prevention of cervical cancer as they were aware of the risks of getting such a deadly disease. Similarly, an earlier study showed that education and race did not have association with the acceptance of vaccine¹⁴.

Awareness and Source of Information

The results from this study showed that majority of respondents were aware of cervical cancer. In the study conducted by Gharoro and Ikeanyi (2006)¹⁵, 65.2% of female health workers were aware of cervical cancer. Generally, women knew cervical cancer as it was the second common cancer among women. Moreover, since respondents in our study were future healthcare workers, they should always update themselves with the latest health information. More respondents in our study were aware of cervical cancer than in the earlier study because there were more campaigns and awareness programs to promote prevention of cervical cancer in recent years after HPV vaccines became available.

Mass media and education were the most common sources of information of cervical cancer for respondents from both FF and FSKB. Similar findings were reported among women who were aged 18 to 26 years old¹⁶. Besides, students from Canada stated that they obtained most of their knowledge through the media and classes¹⁷. Mass media was frequently referred to as a wide range of information can be easily accessible. Other common references included posters and pamphlets in the campus, family and friends. Hence awareness programs on University campuses as well as programs targeting the public can be very effective in educating women on the preventive measures for cervical cancer.

Limitations

There were several limitations in this study. Firstly, only two faculties were included in this study, therefore the results do not present all UKM students. Secondly, fourth year students were not included. Lastly, the questionnaire was quite long which could have caused the respondents to be impatient while answering questions and introduce incorrect information.

CONCLUSION

The knowledge level of respondents on cervical cancer and its prevention was not satisfactory especially that they are health sciences students. However most of the respondents showed a positive attitude on prevention. The knowledge level can be further enhanced by organizing educational and awareness programs on University campuses especially among medical and health sciences students. These students can play an important role during and after completing their studies in educating women to prevent cervical cancer.

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